AUSTRALASIAN BRYOLOGICAL NEWSLETTER

Number 46 December 2002

Editor: Mr. P.J. Dalton, School of Plant Science, University of Tasmania, Private Bag 55, Hobart, Tasmania, Australia. 7001. Ph: (03) 62 267873, Fax: (03) 62 262698. E-mail: P.J.Dalton@utas.edu.au
Website: http://www.utas.edu.au/docs/plant_science/ABN/index.htm

Cover Page

Participants of the18th John Child Workshop:
Left to right from the back; Rodney Lewington, Jessica Beever, Alison Knight, Peter Beveridge, Nina Hesom-Williams Niels Klazenga, Susan Hansard, David Orlovich, Patrick Brownsey, Val Stajsic, Leon Perrie, Prue Fairburn, Lynette Fischer, Chris Clowes, Barbara Beveridge, Ian Wilson, Kevin Downing, Bill Malcolm, Nancy Malcolm, John Braggins, Cortwa Hooijmaijers, Geoff Spearpoint, David Glenny, Sue Gibb, Elizabeth Brown, Maia Mistral, Darea Sherratt, Alison Downing, and Paddy Dalton behind the camera.
Absent: Bryony Macmillan, Rebecca Wagstaff, Neill Simpson and Kelvin Lloyd

18th John Child Workshop, Wanaka, New Zealand.
28th November – 3rd December 2002

The 18th John Child Workshop was based at Wanaka, Central Otago District in the South Island of New Zealand. This foray was, as for all, strongly supported with 32 participants, six of who came from across the Tasman (Sydney, Melbourne and Tasmania). We were located in a comfortable backpacker's lodge at Albert Town, just 2 kilometres from the beautiful township of Wanaka. The facilities were ideal for our needs, with a well-equipped laboratory set-up next to a spacious kitchen and dining room. The late spring weather brought plenty of sunshine and warm temperatures for the duration of the workshop, which relegated the woollen balaclava, gloves and scarf to excess baggage. Most significantly the lodge was conveniently adjacent to essential services that were well patronised following a hard day's fieldwork!
The first day was largely spent walking the Bridle track from Haast Pass (elevation 600m) to the Makarora river at Davis Flat. The lush beech forest yielded a diverse hepatic flora which dominated ground cover eg: *Lepidogyna hodgsoniae* and excellent fruiting material of *Wettsteinia schusteriana*, through to epiphytic and epiphyllic substrates eg: *Cololejeunea laevigata*. Several interesting moss species were represented by fertile populations of *Ephemeropsis trentepohlioides* and *Mesotus celatus*. At Davis Flat, the moist grassy areas supported good growth of the adventive moss *Rhytidiadelphus squarrosus*.
On the return journey to base there was a stopover at Kidds Bush. Here the drier habitat supported a dominant moss flora; most noticeable were *Cryphaea tenella* and *Lepyrodon australis*
The field trip on the second day took us to the picturesque Matukituki River valley. On the rocky outcrops in open pasture were the mosses *Racomitrium pruinosum* and *R. crispulum*. The boggy ground along the margin of a stream from the run-off of a waterfall contained the robust swamp moss, *Climacium dendroides*. This was my first encounter with this dendroid moss, which is widely distributed in the Northern Hemisphere. In the Southern Hemisphere it is confined to the south island of New Zealand and the only other collection is from a sub-alpine bog in Victoria, Australia. I do not know of any authenticated records from Tasmania.
High altitude exploration was undertaken on Day 3. The morning was spent on the Criffel range above 1500m elevation. The treeless landscape was in marked contrast to the previous two days and the cushion bogs provided a new array of species. Two distinctive *Sphagnum* species – *S. squarrosum* and *S. teres*, *Dicranum scoparium*, *Tortula rubra* while at lower elevation, *Meesia muelleri* with abundant capsules persisting.

Lunch stop on the range allowed a marvellous view across to Mt. Aspiring.
In the afternoon we moved to the tussock slopes of the Cardrona Skifield. Here excellent material of the moss *Conostomum pentastichum* and the hepatics, *Pachyschistochila parvistipula* and *Trichocolea rigida*.
Our last day of fieldwork provided the opportunity to study drier habitats on the Outlet track along the Clutha River and around Mt. Iron Reserve. Taxa from the families Pottiaceae, Orthotrichaceae and Thuidiaceae were in abundance. Particular mention here of the successful collection of *Triquetrella tasmanicus* by Jessica Beever.
Evenings during the workshop allowed ample opportunity to examine material. Several interesting talks were given and these commenced with a radiotape by Jessica Beever discussing the endangered *Fissidens berteroi* in New Zealand. Jessica also presented a paper outlining her current state of knowledge of the Pottiaceae in New Zealand. John Braggins enlightened us on the significance of surface features in several hepatic genera. Bill Malcolm gave an informative power-point presentation on the latest developments in computer technology for presenting publications on bryophytes. Kelvin Lloyd presented a picturesque slide-show of Wanaka and the surrounding regions.
All too quickly another successful workshop came to completion on Tuesday morning. Special thanks go to two stalwarts, David Glenny and Geoff Spearpoint for their organisation and to Peter Beveridge whose local knowledge provided us with a diversity of flora to explore.
The long trip back to Christchurch left a lasting impression of the South Island – a magnificent view of Mount Cook across Lake Pukaki.
Preliminary discussions were held on the last evening for the next John Child Workshop to be held in the North Island, south of Auckland – may the wonderful tradition continue.

Paddy Dalton, School of Plant Science, University of Tasmania.

Kosciuszko Biodiversity Blitz
12th & 13th January 2002

Bryologists were well represented amongst those invited to take part in the 'Kosciuszko Biodiversity Blitz' held in Kosciuszko National Park in January, with David Meagher (Melbourne University) as team leader, Alison Downing.(Macquarie University), Judith Curnow (Australian National Botanic Gardens) and Kerri Clarke (University of New England). In recent years, the concept of the 'Biodiversity Blitz' has become very popular in Europe, especially in Germany and Switzerland. Over a 24 hour period, experts from all fields of biological science gather together to make an inventory of the different organisms found within a given area. In the Kosciuszko Blitz, this area was a triangle of approximately 27 square kilometres, linking Thredbo Village, Mt Kosciuszko and Dead Horse Gap on the Alpine Way. Organisms surveyed included mammals, birds, reptiles, invertebrates, algae, bryophytes, ferns, conifers, flowering plants fungi and lichens. For participating biologists it proved a considerable challenge as it included a great diversity of habitats, such as alpine herbfield, sub-alpine *Eucalyptus pauciflora* (snow gum) woodland, and montane woodland and forest.
The *Blitz* was organised by Dr Ken Green, a wildlife ecologist from the Snowy Mountains Area Office of the National Parks & Wildlife Service of New South Wales. In Kosciuszko National Park there is concern about the effects of global warming on distribution of animal and plant species. It is anticipated that warmer temperatures may cause the extinction of some species found only at high altitudes, other species may migrate upwards, displacing those at higher altitudes. An example of this may be that during the blitz, copperhead snakes were recorded for the first time in alpine meadows above the tree line.
The intrepid bryologists made two main traverses, one from the Thredbo chairlift top station to Dead Horse Gap, returning to Thredbo along the Thredbo River; the second along the summit track between the chairlift top and Lake Cootapatamba, just below the rounded crown of Mount Kosciuszko itself. An additional

traverse, concentrating on liverworts and hornworts, was made across Merrits Traverse and back down to Thredbo between the Gunbarrel Express and Cruiser chair lifts. The alpine meadows were ablaze with

wildflowers and the weather cool but fine and clear all weekend. After spending many hours scrambling through scrub, around granite boulders and along clear mountain streams edged with golden *Sphagnum* moss, we were all astonished to hear later in the evening that the area in which we were working had been found to have the highest concentration of tiger snakes ever recorded at Kosciuszko!

The initial expectation was of a species list that included possibly 60 to 70 species, but even by the end of the weekend, the list had increased to include at least 80 species of mosses and more than 20 species of liverworts. After many long hours slaving over hot microscopes, we can now report at least 115 species collected during the 'Blitz', including 64 mosses, 49 liverworts and two hornworts. At least seven other specimens are likely to yield additional taxa. Searches of publications, herbaria records and collections, indicate that 152 bryophytes have now been recorded for Kosciuszko National Park.

The *Kosciuszko Biodiversity Blitz* was the first major event in Australia to celebrate the 'International Year of the Mountains'. At Thredbo Village, the event was well promoted, and members of the public were encouraged to watch biologists collect and record specimens in the field. The community centre was converted to a display centre where a fascinating display of specimens collected during the weekend was presented. The press was also present, with articles appearing in the *Sydney Morning Herald* and *The Australian* newspapers, as well as considerable coverage on radio. The reports from the various groups are in the final stages of compilation, with publication expected within the next few months. The 'Blitz' has already been voted an outstanding success, with many of the visiting biologists now planning new research projects in Kosciuszko National Park to continue their investigations.

The bryological group would like to thank Ken Green, Mary Green and Rebecca Hall from NSW National Parks and Wildlife Service and also to thank Rod Seppelt, Christine Cargill and Niels Klazenga for their assistance with identifications. I would also like to personally thank David, Kerri and Judith who made the weekend an absolutely brilliant bryological experience.

Alison Downing, Department of Biological Sciences, Macquarie University, NSW.

Bryophyte Records

Cyathodium cavernarum in Australia.

In April and May 1988 George Scott collected in the Kimberley region of Western Australia two specimens of a bryophyte that he didn't recognise. At the bryophyte workshop at Tasmania in late 1988 he reported that he had something very exciting from the Kimberley region that was like a thallose liverwort but had some sporophyte features of a moss. On the two specimens he deposited at MELU herbarium he put the unpublished name *Kimberleya luminosa*. Later, George realised that what he had collected was a *Cyathodium* species, reporting it in a conservation overview of Australian lichens, bryophytes, algae and fungi (Scott *et al*. 1997) as *Cyathodium* sp. He describes it thus: "The glistening golden-green plates of this very pretty thallose species, c. 0.5–1 cm across have an almost iridescent lustre accentuated by the darkness of the habitat. It seems to be confined to the floor of a single small cleft in south-facing cliffs of the Napier Range in the Kimberley region of Western Australia. … The species is not yet certain, but the genus is also found in Africa and India, i.e. the adjacent plates of Gondwana."
He classified it as rare, and said "None of the nearby gullies appear to contain the plant. It dies off in late spring so is presumably annual, re-growing from spores at the end of each wet season, making its survival exceedingly precarious. Fires in the grassland which come right to the mouth of the gully, are a major hazard, in particular their effect on the shade-giving trees. Natural flooding, too, could eliminate the colony." (Scott *et al*. 1997, p. 115).
I examined these plants, and using Srivastava and Dixit's (1996) revision of the genus determined the two MELU specimens as *Cyathodium cavernarum* Kunze. This species is distinct in *Cyathodium* for the lack of spines on the outside of the involucre, the brown, thick-walled cells of the involucral rim, and the baculate spores. Its distribution is Cuba, Peru, Africa, India, the Eastern Himalaya, Burma, Java, and now Australia. The genus contains 11 species and has its centre of diversity in India and the Eastern Himalaya, but is present on most continents. What George Scott took to be a moss peristome is the brown thick-walled 2 to 3 tiers of elongated cells that make up the involucral mouth. The involucral rim in the Australian material has split into segments which bear a strong resemblance to peristome teeth.
George Scott actually collected *Cyathodium cavernarum* from two localities, one from the Napier Range site he reported in 1997, and one from Windjana Gorge, in the same region. The two collections were made only 6 days apart, so it seems George forgot this second site when he wrote the 1997 publication.

References

Scott, G. A. M., Entwisle, T. J., May, T. W., and Stevens, G. N. 1997. A conservation overview of Australian non-marine lichens, bryophytes, algae and fungi. Wildlife Australia, Canberra.
Srivastava, S. C. and Dixit, R. 1996. The genus *Cyathodium* Kunze. *Journal of the Hattori Botanical Laboratory* 80: 149–215.

David Glenny, Landcare Research, Lincoln, New Zealand.

New Bryophyte records for Australia

Species new to Australia

***Bazzania filiformis* Steph.**
QLD: Bellenden Ker
Habitat: On soil in montane rainforest (cloud forest).
Note: Known previously only from the type collection, also from Bellenden Ker (coll. Sayer & Davidson).

***Bazzania intermedia* (Reinw. et al.) Trev.**
QLD: Bellenden Ker, Mt Lewis, Thornton Peak
Habitat: On bark and rotting wood in tropical rainforest.
Note: This species was reduced to synonymy with *B. australis* (Lindenb.) Trev. by Kitigawa (*J. Hattori Bot. Lab.* **36**: 445, 1972), but others have not followed this course.

***Bazzania serpentina* (Reinw. et al.) Trev.**
QLD: Bellenden Ker
Habitat: On rotten log in tropical rainforest.
Note: The taxonomy of this and similar species from SE Asia is unclear, and some might be synonymised in the future. At present *B. serpentina* is the appropriate name for this specimen. It resembles the widespread but disjunct *B. pearsonii*, but the trigones of the leaf cells are less bulging and confluent than in that species.

***Bazzania subtilis* (Sande-Lac.) Trev.**
QLD: Millaa Millaa Falls
Habitat: On rotten log in tropical rainforest.

***Bazzania tridens* (Reinw. et al.) Trev.**
QLD: Millaa Millaa Falls
Habitat: On rotten log in tropical rainforest.

***Bazzania vittata* (Reinw. et al.) Trev.**
QLD: Paluma, Bellenden Ker, Lake Barrine, Millaa Millaa Falls, Thornton Peak, Mount Lewis
Habitat: Almost exclusively on rotting wood in upland rainforest; rarely on twigs and branches in rainforest canopy.

***Cyathodium cavernarum* Kunze**
WA: Windjana Gorge, Kimberley Ranges
Habitat: On calcareous soil in shaded cleft of cliff.

***Radula lingulata* Gott.**
QLD: tributary of Mulgrave River
Habitat: On basalt rock on vertical face of waterfall, submerged under cascade.

***Saccogynidium muricellum* (De Not.) Grolle**
QLD: Daintree
Habitat: on soil
Note: Previously misidentified as *S. rigidulum* (Nees) Grolle.

Species new to the Australian mainland

***Ectropothecium leucochlorum* (Hampe) Broth.**
QLD: Fraser Island, track to Lake Allom
Habitat: On rotting wood.
Note: Det. Nishimura; previously known only from Lord Howe Island

Species confirmed for Australia (previously uncertain)

***Bazzania fasciculata* (Steph.) comb. nov.**
Basionym: *Mastigobryum fasciculatum* Steph., *Bull. Herb. Boissier* ser. 2, **8**(11) 849 (1908); *Spec. Hepat.* **3**: 432 (1908); *Icones* (unpubl.) p. 156, ëAustralia, Sydney, leg. Goebelí
NSW: Royal National Park; Somerby Falls
Habitat: On soil.

***Bazzania nitida* (Weber) Grolle**
QLD: Josephine Falls; Bellenden Ker
Habitat: On bark of trees.

***Schiffneriolejeunea pulopenangensis* (Gott.) Gradst.**
QLD: Lockerbie scrub, Cape York Peninsula
Habitat: On trunk of palm (*Gulubia costata*).

David Meagher, School of Botany, The University of Melbourne

Two unusual habitats for *Sauloma tenella*

Sauloma tenella (Hook.f. & Wils.) Mitt. is typically an epiphyte or lithophyte in rainforest, wet sclerophyll forest and other wet habitats. Heinar Streimann (*J. Hattori Bot. Lab* 88, p. 133, 2000) noted that it also grows in dry sclerophyll forest and in regrowth (presumably in damp situations), on a variety of substrata. During bryophyte surveys at Wilsons Promontory this species was found in two very different habitats. The first was on sandy soil in banksia – tea-tree woodland, among *Ptychomnion aciculare*, *Thuidium sparsum*, *Triquetrella papillata* and other mosses of drier habitats. The second was at the base of a sand dune close to a beach, in open shrubland, in the shade of a small shrub. This second population was very fertile, and the capsules were held perfectly erect instead of at an angle, which is apparently not unknown in this species (GAM Scott & IG Stone *The Mosses of Southern Australia*, 1976) although unusual in my experience. Specimens are lodged in MEL and MELU. Oddly, I have yet to find this species in its more usual habitats on Wilsons Promontory.

Syrrhopodon platycerii Mitt., a horticultural introduction in Victoria

Ferns from tropical and subtropical Australia are popular garden plants in south-eastern Australia. A particularly popular fern is *Platycerium bifurcatum*, which in its natural habitat on the coast of Queensland and northern New South Wales grows up to a metre in diameter on the trunks of trees.
A specimen of this fern in cultivation in Melbourne was found to support a healthy, fertile population of the moss *Syrrhopodon platycerii* Mitt., an epiphyte that is particularly common on *Platycerium* ferns.
It is clear that this species can survive readily in a temperate climate, given suitable cultivated conditions. In this case, protection under shade cloth and a misting for one hour each day seemed sufficient.
Platycerium ferns might be good subjects for a detailed investigation of their bryophytic epiphytes. For example, a *Platycerium* growing on an old *Syzigium tierneyanum* on the banks of a tributary of the Mulgrave River, south of Cairns, was found to support a very healthy population of *Leucophanes* sp.
I would welcome any other reports of non-indigenous bryophytes growing on plants for sale anywhere in Australia (email dmeagher@a1.com.au — [that's 'a' followed by the number '1']).

David Meagher, School of Botany, The University of Melbourne.

Forthcoming Workshops

VIIth Australasian Bryophyte Workshop.

The 7th Australasian Bryophyte Workshop will be held at Rawson, close to Mt Baw Baw National Park from 4th to 9th October 2003.

Baw Baw National Park is situated aprox. 120 km east of Melbourne. Mt Baw Baw is the southernmost extension of the Great Dividing Range. Several peaks above 1200 m and up to c. 1500 m are found in the Mt Baw Baw National Park so a number of different habitats, ranging from cool temperate rain forest through snowgum forest through alpine heathland to *Sphagnum* bogs can be found inside the National Park.

Accommodation has been found at Rawson Village, which is the old construction village for the Thomson Dam. Accommodation style is shared bunkrooms (3–6 people) with ensuite. It is fully catered accommodation, providing three meals a day plus morning and afternoon tea and supper.

The cost of the workshop will be $335, including accommodation and all meals ($47 a day) and registration ($100). Participants who want to organise their own accommodation should contact Pina or Niels.

We will provide transport for participants who do not have their own transport, from Melbourne to Rawson on Saturday morning 4h October and from Rawson to Melbourne on Thursday 9th October.

The 7th Australasian Bryophyte Workshop will be held after and in conjunction with the 150th Anniversary Commemorative Conference, which will be held from 29th September to 3rd October 2003. A brochure for this conference has been included with this Newsletter. A second circular will be released early March and will be accessible through the internet (http://www.conferences.unimelb.edu.au/150years) and will be sent to those who have registered for the conference. Please note that if you informed us earlier that you will attend the conference, you still have to send in the 'registration of interest' form in the brochure or register over the internet.

If you would like to attend the Bryophyte Workshop please complete the registration form enclosed.

For further information contact:

Niels Klazenga	(03) 9252 2369	Niels.Klazenga@rbg.vic.gov.au
Pina Milne	(03) 9252 2309	Pina.Milne@rbg.vic.gov.au

19th John Child Bryophyte Workshop

19th John Child Bryophyte Workshop will be held in the Hunua Ranges, 50 km SE of Auckland City. Transport from Auckland will be arranged. The Hunua Ranges rise to 688 m and are a water catchment area for Auckland City. Major vegetation types are podocarp/broadleaf forest, with some kauri (*Agathis australis*), and small areas dominated by hard beech (*Nothofagus truncata*). There are also areas of second-growth forest dominated by kanuka (*Kunzea ericoides*). In addition it is planned to make an excursion to swamp-land to the south, in the Waikato district.
All levels of expertise welcome, including beginners.
To be placed on the list to receive the first circular, which will contain details of the dates, or for further enquiries, please contact:

Mei Nee Lee, Botany Department, Auckland Museum, Private Bag 92018, Auckland, NEW ZEALAND

REGISTRATION FORM

VII Australasian Bryophyte Workshop
Mt Baw Baw National Park, Victoria
4th – 9th October 2003

Please fill in and tick (☑) where relevant

Preferred title: ☐ Mr ☐ Mrs ☐ Ms ☐ Dr ☐ Other: .....
Surname: .....
Preferred first name: .....
Postal address: .....
.....
.....

Email: .....
Phone (day): .....
Phone (night): .....
Fax: .....

Please indicate your options where appropriate

☐ I will be attending the entire workshop
☐ I will be attending the workshop on the following days only: .....

Accommodation:

☐ I intend to stay at the Rawson Village Convention Centre
☐ I will arrange alternative accommodation myself (please contact Pina or Niels)

Transport:

☐ I will require transport from Melbourne to the workshop
☐ I will be driving to the workshop
☐ I am able to assist with transport during the workshop

Paper presentation:

☐ I would like to present a paper at the workshop
Proposed title: .....

Dietary requirements:

I have the following dietary requirements: .....

First Aid:

☐ I hold a current First Aid certificate, level: .....

Please return this form as soon as possible to:

Niels Klazenga
Royal Botanic Gardens Melbourne
Birdwood Ave
South Yarra VIC 3141
AUSTRALIA

Telephone: +61 (0)3 9252 2369
Fax: +61 (0)3 9252 2350
Email: Niels.Klazenga@rbg.vic.gov.au